SrcTrace

Objective

Applications should always be traceable back to its source. When using a revision control system like git, this would mean being able to extract the source regardless of how old or home any revisions it has undergone since.

This projectlet generates a fragment of source code that can be compiled into the application and retrieved at runtime to report the details as necessary.

User needs and requirements

Id	Need/Requirement
1	The utility shall be able to report the specifications of the repository.
2	The utility shall be able to report the details - branch name, current commit id of the repository.
3	The utility shall be able to generate source fragments that can be compiled into an executable. The output can be in the programming languages: C, C++, Ada, go, python

User wants

The following will enhance the appeal of the tool.

Id	Wants
1	The utility shall be able to report on a specific file.

Specification

Command/Switch	Description
-major=\<m>	Major version. Default=0
-minor=\<n>	Minor version. Default=0
-build=\<build>	Build number. Default=9999
-lang=()	Language for which the output file is needed Possible choices are: C, C++, Ada, python, Go,
-output=name	Filename of the output. Default is "revisions" with a file type based on the language. E.g revision.h for C and revision.hpp for C++.

Command/Switch	Description
argument	A specific file name. By default, this will report on the current checked out repository.
Fields in the outputfile	VERSION_MAJOR VERSION_MINOR BUILD_NUMBER REPO_NAME BRANCH_NAME COMMIT_ID_FULL COMMIT_ID

Example usage

C Application

../../bin/srctrace --language C -m 2 -n 3 -b 234
2019/11/07 05:46:03 srctrace
$ cat revisions.h
// C header generator
// File: revisions.h
#define BUILD_TIME "Thu Nov 7 2019 05:46:03"
#define VERSION_MAJOR (2)
#define VERSION_MINOR (3)
#define VERSION_BUILD (234)
#define REPO_URL "git@gitlab.com:privatetutor/projectlets/go.git"
#define BRANCH_NAME "master"
#define SHORT_COMMIT_ID "cefa722"
#define LONG_COMMIT_ID "cefa72267cc4d3a07fbf5e672b0053116d582aa7"

Ada Application

../../bin/srctrace --language Ada -m 2 -n 3 -b 234
2019/11/07 05:48:39 srctrace
$ cat revisions.ads
package revisions is
-- Ada spec generator
-- File: revisions.ads
   BUILD_TIME : constant String := "Thu Nov 7 2019 05:48:39" ;
   VERSION_MAJOR : constant := 2 ;
   VERSION_MINOR : constant := 3 ;
   VERSION_BUILD : constant := 234 ;
   REPO_URL : constant String := "git@gitlab.com:privatetutor/projectlets/go.git" ;
   BRANCH_NAME : constant String := "master" ;
   SHORT_COMMIT_ID : constant String := "cefa722" ;
   LONG_COMMIT_ID : constant String := "cefa72267cc4d3a07fbf5e672b0053116d582aa7" ;
end revisions ;